## INDEX OF DSTL TECHNOLOGY DATA SHEETS

<b>Data Sheet</b>	Technology	Page number
	Absorption LIDAR	5-22
	Acoustic Dampening Materials Technology	19-26
	Acoustic Detection (Land Mines)	17-56
	Acoustic Weapons, Incapacitating	2-77
	Active Aeroelastic Wing	1-24
16.4-10	Active Electromagnetic Sensors	DSTL-16-75
	Active Hard-Kill Protection System	9-42
	Active Laser Seeker	2-26
	Active Load/Buffet Alleviation for Flight Surfaces	1-24
	Active RF Tags	17-37
	Active Sonar for Anti-Torpedo Torpedoes	17-12
	Active Sonar for Mine Countermeasures	17-11
	Active Sonar for Underwater Weapons	17-11
	Active Sonar Signal and Data Processing for Multiplatforms	17-7
	Actuators	14-61
	Advanced Active Sonar for Submersibles	17-9
	Advanced Air Data Systems	1-30
	Advanced Components for mmW Seekers	2-28
	Advanced Composite Armor Design	2-69
	Advanced Data Processing for Active Sonar	17-7
	Advanced External Vision	1-32
	Advanced Intermetallic Alloys	14-31
	Advanced Monolithic Ceramics	14-36
	Advanced Optical Sensing Technology	11-79
	Advanced Packaging of Integrated Circuits (ICs)	8-29
	Advanced Robotics for Explosive Ordnance Disposal (EOD)	2-82
	Advanced Surveillance System Technology	19-72
	Aeroprecipitation	4-16
	Air Data Systems, Advanced	1-30
	Airblast Prediction	20-9
	Airblast Simulator	20-10
	Airborne "Stealth" Radars	17-35
	Air-Chisel Clearance/Neutralization (Land Mines)	17-56
	Aircraft Corrosion Protection: Coatings and Appliqués	14-43

<b>Data Sheet</b>	Technology	Page number
	Aircraft Design and Synthesis Tools	1-32
	Aircraft Paint Stripping	14-44
	Alkali Metal Thermal to Electric Converter (AMTEC)	7-18
	Alloys for High-Temperature Use	14-74
	Alloys, High-Permeability	14-75
	Alloys, Magnetic Amorphous	14-76
	Alloys, Magnetic Nanocrystalline	14-77
	Alternators and Compulsators, High-Energy and Power Density Pulse	7-66
	Ammunition Coatings	14-54
	Ammunition, High-Firing Rate	2-15
	Amorphous Metal Matrix Composite	14-16
	Amorphous Zirconium-Based Alloys	14-8
	Antenna Voltage Increase	6-91
	Antifouling Coatings	14-48
	Antimatter Particle Beams (APBs)	6-13
	Apparel	14-50
	Application-Specific Integrated Circuits (ASICs) [Custom Integrated Circuits (ICs)]	8-31
	Armor Ceramics	14-14
	Armor Design, Advanced Composite	2-69
	Armor Material Systems, Polymer Composite	14-11
	Armor Systems, Ultra-Lightweight	14-11
	Armor, Optically Transparent	14-9
	Artificial Intelligence (AI) and Learning Integrated Circuits (ICs)	8-32
	ASW Volumetric Towed Arrays	17-30
16.5-2	Atomic/Ion Clocks	DSTL-16-82
16.1-14	Atom Interferometer Inertial Sensor	DSTL-16-22
	Atmospheric Effects Modeling and Simulation (M&S)	2-33
	Atmospheric Probes in the 50–800 $\mu m$ Region of the Spectrum for Pollution and Nuclear Weapons Test Detection	11-76
16.6-2	Audio Navigation	DSTL-16-89
	Automatic Target Recognition (ATR) for Autonomous Guidance	2-27
	Automatic Target Recognition	9-67
	Autonomous Operations, Smart Software for	19-92
	Autonomous Projectile/Rocket	9-64
16.1-4	Azimuth (North Pointing) Determination Systems (Non-Celestial Devices)	DSTL-16-12
16.3-14	Bathymetric Data-Based Referenced Navigation (DBRN) Systems and Data Sources	DSTL-16-55

Data Sheet	Technology	Page number
	Batteries, High-Cycle-Life Lithium-Ion	19-42
	Batteries, Lithium Polymer	6-82
	Battery (Primary), Lithium Thermal	7-10
	Battery (Rechargeable), Lithium Ion	7-22
	Battery (Rechargeable), Lithium Polymer	7-23
	Battery (Rechargeable), Nickel Metal Hydride	7-24
	Battery (Rechargeable), Silver Zinc	7-25
	Battlefield Robots	12-36
	Battlescale Lower Atmosphere Meteorology	2-32
	Behavior Modeling	10-89
	Beryllium-Aluminum	14-29
	Bio-based Sensors	4-17
	Biochemical Modeling	5-13
	Biological Protection Against Biological and Chemical Agents	4-15
	Biomarkers of Toxicant Exposure and Stress	4-27
	Biomaterials and Process Research	14-38
	Bioregulation	5-14
	Biotechnology Detection (Land Mines)	17-57
	Bistatic Surveillance Radars	17-36
	Blade-Cooling Effectiveness, Higher	1-14
	Blast Chambers	20-25
	Blended Wing/Body (BWB)	1-5
	Bonded Neodymium Permanent Magnets	14-81
	Box Wing	1-6
	Bremsstrahlung Diode	20-118
	Bremsstrahlung Sources	20-92
	Broadband Radio Frequency (RF) Component Technology	19-23
	Built-in Test Equipment (BITE)	20-143
	Bulk Metallic Glasses	14-39
	Capacitor, Peaking	20-149
	Capacitors (PFNs)	6-79
	Capacitors, Electrochemical	7-27
	Capacitors, Electrostatic	7-26
	Capacitors, High-Repetition-Rate (and Continuous)	7-34
	Capacitors, Low-Repetition-Rate and Burst	7-32
	Capacitors, Medium-Repetition-Rate	7-33

Data Sheet	Technology	Page number
	Cathodes (HPM NB Sources)	6-63
	Cathodes, Improved: Field-Emission Cathode Arrays (Cold Cathodes)	8-4
	Cathodes, Improved: Oxide-Coated Cathodes	8-5
	Ceramic and Layered Structures	14-70
	Ceramic Gas-Turbine Engines	2-9
	Ceramic Matrix Composites (CMCs)	1-13
	Ceramic Matrix Composites (Armor)	14-10
	Ceramic Matrix Composites (Structural Materials)	14-32
	Ceramics for Ballistic Protection	2-71
	Ceramics, Diamond and High Thermal Conductivity	14-53
	Channel-Adaptive Processing for Active Sonar	17-8
	Charged Particle Beams (CPBs)	6-5
	Chemical and Biological Sensor Materials	14-55
	Chemical Double Layer (CDL) Capacitors	7-35
	Chemical Neutralization (Land Mines)	17-62
	Chemical-Agent-Resistant Coatings (CARC)	14-51
	Chemically Modulated Ion Channel	7-45
	Chip-Based DNA Sequencing via Nanometer Holes in Semiconductors	11-95
	Chip-Level Optical Interconnection	11-91
	Cluster Tools	8-13
	Coherent RF Photonic Processing for Adaptive Arrays	11-89
	Cold X-Ray Debris Shield System	20-122
	Cold X-Ray Effects Simulation	20-91
	Cold X-Ray Simulator: Explosive Loading Simulator	20-72
	Cold X-Ray Simulator: Magnetically Driven Flyer Plate	20-71
	Cold X-Ray Simulator: X-Ray Machines	20-70
	Combustion-Inhibiting Technologies	2-78
	Communication Links	10-13
	Communication Satellites (Satcoms)	9-99
	Composite Armor Design, Advanced	2-69
	Composite Isogrid Components	19-85
	Composite Materials	20-37
	Composites, Fire-Resistant Polymer Matrix	14-51
	Composites, Continuous Fiber Reinforced Titanium Metal Matrix	14-30
	Composites, Discontinuously Reinforced Aluminum Metal Matrix	14-30
	Composites, High Electrical Conductivity Aluminum and Polymer	14-16

Data Sheet	Technology	Page number
	Composites, High Thermal Conductivity	14-23
	Composites, Magnetic Nanoparticle	14-79
	Composites, Metal Matrix	14-10
	Composites, Structural Carbon-Carbon	14-35
	Compound Semiconductor Integrated Circuits (ICs)	8-33
	Compton Diodes (CDs)	20-178
	Computational Fluid Dynamics	5-9
	Computational Materials and Process Development	14-29
	Computer Shock Phenomena Codes	20-53
	Computer-Controlled Optical Grinding/Polishing	11-52
	COMSEC Technology, Programmable and Embeddable	10-53
	Conformal Load Bearing Antenna Structures	1-22
	Continuous Fiber Reinforced Titanium Metal Matrix Composites	14-30
	Conventional Refractory Metals	14-14
	Converter Integrated Circuits (ICs)	8-34
	Cooled Cooling Air	1-13
	Cooled Staring Focal Plane Array Technology	17-28
	Cooled Transmissive Optics	19-32
	Cooling of Helix Tubes, Improved	8-16
	Corrosion Protection, Aircraft: Coatings and Appliqués	14-78
	Creation and Packaging of Nanomaterials (for obscurants)	5-30
	Cryogenic Fuels	1-19
	Crystal Fabrication Equipment	20-174
	Cubic Boron Nitride (cBN) Grinding Wheels for Hardened Steel Gears and Bearings	12-27
	Cubic Boron Nitride Coatings, Technology for	12-14
	Damage Control (Marine Systems)	13-46
	Data Processing for Active Sonar, Advanced	17-17
	Data Representation and Visualization	10-31
	Data Testing of Hypervelocity Impact (HVI) Effects	20-49
	Design and Synthesis Tools, Aircraft	1-32
	Designer Chemistry	5-13
	Detector Manufacturing	20-175
	Deterministic Modeling	10-89
17.1-4	Deterministic Random Number Generation	DSTL-17-16
	Detonation Occurrence	20-80
	Diamond and High Thermal Conductivity Ceramics	14-53

Data Sheet	Technology	Page number
	Diamond Coatings, Technology for	12-13
	Diamond Semiconductor Switches	6-78
	Diamond Semiconductor Switches	7-41
	Diamond Substrates	14-22
	Dielectrics for Pulse-Power Capacitors	7-34
	Diesel Reforming	13-36
16.3-2	Differential Global Navigation Satellite System Receivers	DSTL-16-36
	Diffraction Gratings	20-177
	Diffusion and Cryogenic Pumps	20-173
17.2-7	Digital Data Steganography	DSTL-17-42
	Digital Optoelectronic Systems	11-94
	Digital Shearography	12-23
	Digitization (Battlefield)	9-95
	Diode, Bremsstrahlung	20-118
	Directed-Energy Neutralization (Land Mines)	17-58
	Directional Ordnance Land Mines	2-161
	Directional Warhead for Air Targets	2-109
	Discontinuously Reinforced Aluminum Metal Matrix Composites	14-30
	Discrete Event (DE) Simulation	10-90
	Displays for Wearable Computers	11-85
	Disposable Ground-Shock Simulation	20-23
17.1-2	Distributed Key Generation (DKG)	DSTL-17-13
	Distributed Simulation	10-90
	DNA Sequencing, Chip-Based	11-95
16.3-7	Doppler (Radar and Sonar) Navigation Systems	DSTL-16-44
	Dose-Rate Upset	20-96
	Double-Clad Fiber Lasers	11-30
	Drag-Reduction Coatings	14-49
	Dust Lofting	20-19
	Dynamic Pressure Gauge	20-16
	Edge-Emitting Laser Diode Array Process Technology	11-20
	Electric Drive (Marine Systems)	13-37
	Electric Drive (Ground Systems)	9-43
	Electric Propulsion, High-Power	19-123
	Electric Propulsion, Low-Power	19-119
	Electric Propulsion, Medium-Power	19-121

Data Sheet	Technology	Page number
	Electric ROVs	13-64
	Electric Surge Arresters (ESAs)	20-112
	Electrochemical Capacitors	7-27
	Electromagnetic (EM) Launch Technology	2-20
	Electromagnetic (EM) Lens	6-97
	Electromagnetic Probes and Sensors	20-108
17.2-1	Electronic Money Transfer	DSTL-17-30
	Electronics, Molecular	8-43
	Electro-Optic and Photorefractive NLO Polymer Technologies	11-48
	Electrostatic Capacitors	7-26
	Electrothermal Chemical (ETC) Propulsion	2-19
	Electro-Thermal Chemical Gun	9-41
17.1-3	Elliptic Curve System Security	DSTL-17-14
	EMI Detection	17-77
	EMI Detector (Land Mines)	17-58
	Emulated Biological Sensors (Land Mines)	17-59
	Encryption, High-Speed	10-47
	Endothermic Fuel-Cooled Technology	1-20
	Energy Storage Flywheels (ESFs)	19-43
	Energy-Management Systems (EMSs)	1-30
	Enhanced Dermal Penetration	5-9
16.3-6	Enhanced LORAN (E-LORAN) Systems for Navigation	DSTL-16-42
	Enhanced Optical Lithography	8-15
	Environmental (for obscurants)	5-28
	Environmental Feedback Systems	17-75
	Environmentally Adaptive Active Sonar	17-9
	Equation of State (EOS)	20-167
	Excimer Lasers (LELs)	11-16
	Expendable Underwater Mine Hunters	17-74
	Explosive Array Neutralization (Land Mines)	17-59
	Explosive Magneto-Hydrodynamic Generators (EMHDGs)	6-99
	Explosive Magnetohydrodynamic Generators (EMHDGs)	7-16
	Explosive Net Arrays	17-73
	Explosively Driven Penetrator Technology	2-42
	External Vision, Advanced	1-32
	Extreme Environment Integrated Circuits (ICs)	8-35

<b>Data Sheet</b>	Technology	Page number
	Fabrication Materials for Thin Silicon Windows	19-76
	Factory-Floor-Capable Coordinate Measuring Machines (CMMs)	12-19
	Fading Dispersive Communications Channels	20-151
	Faraday Cage (RF Hardening)	6-109
	Fast Disconnects	20-113
	Fault Detection, Isolation, and Recovery (FDIR) and Telemetry Tracking and Controls (TT&C)	19-9
	Fault-Tolerant Circuits and Techniques	6-105
	Fault-Tolerant Computing Technology	19-22
	Ferroelectric Liquid Crystal (FLC) Material	11-62
	Ferroelectric Thin Films	14-24
16.1-8	Fiber Optic Gyroscopes (FOG)	DSTL-16-16
	Fiber-Optic Missile	9-68
	Field Ion Spectrometry (FIS)	5-20
	Field-Adaptable Systems Technology (FAST)	19-91
	Field-Programmable Integrated Circuits (ICs)	8-36
	Fine Particulate Magnetic Materials for Paint or Coatings	14-77
	Finger, Thumb, and Palm-Print Identification	10-72
	Fire-Resistant Polymer Matrix Composites	14-51
	First Part Correct (or Valid)	12-32
	Flail Clearance and Neutralization (Land Mines)	17-63
	Flow Control Employing Microelectromechanical Systems (MEMS)	1-8
	Flow Control, Forebody Vortex	1-8
	Fluidic Nozzle	1-14
	Fluorescence Detection of Plastics	17-72
	Fluorine Gas Enhancement of Boron Propellant Combustion	19-57
	Fly-By-Light/Power-By-Wire (FBL/PBW)	1-26
	Flywheels	7-21
	Flywheels, Energy Storage	19-43
	Flywheels, Intermediate-Energy-Storage	6-80
	FOPEN GMTI Radar	17-33
	FOPEN SAR	17-33
	Forebody Vortex Flow Control	1-8
	Fractal Self-Shaping Robots	12-40
	Free Electron Laser (FEL) (HPM NB Sources)	6-58
	Frequency-Agile High-Energy Lasers (HELs)	19-101
	Fuel Cell (Marine Systems)	13-36

Data Sheet	Technology	Page number
	Fuel Cell, Proton Exchange Membrane	7-11
	Fuel Cell, Solid Oxide	7-12
	Fuel-Air Explosive (FAE) Technology	2-115
	Fuels, Cryogenic	1-19
	Full-Flow Staged Combustion Rocket Engine Cycle	19-62
	Functionally Graded Ceramic/Metal Systems	14-14
	Fuzes, Smart	9-63
	Gamma Titanium Aluminides	14-31
	Gamma-Ray Lasers	6-20
	Gamma-Ray Lasers	11-25
	Gap Fillers, Low-Observable	14-46
	Gas Chromatography (GC)—Ion Mobility Spectrometry (IMS)	5-18
	Gas Chromatography (GC)—Mass Spectrometry (MS)	5-19
	Gas Phase Ion Chemistry	5-21
	Gas Turbine Engine Lubricants and Seals	14-47
	Gas-Filled Plasma Tubes (HPM NB Sources)	6-39
	Gauge Installation	20-24
	Gear Metrology	12-18
	Generators, Explosive Magneto-Hydrodynamic	6-99
	Generators, Explosive Magneto-Hydrodynamic	7-16
	Genomics	4-7
	Glass Photosensitivity Technology	11-38
	Global Information Grid	9-96
16.3-1	Global Navigation Satellite System Receivers (including GPS-on-a-chip)	DSTL-16-34
	Global Positioning System-Differential GPS (GPS-DGPS) Use in Space	19-7
	GMR Spin Valves	14-83
16.3-3	GNSS Anti-jam Components and Systems	DSTL-16-38
16.3-4	GNSS In-door Navigation Systems	DSTL-16-40
16.3-4	GNSS Interference and Jamming Location Systems	DSTL-16-41
	GPR Detection (Land Mines)	17-60
	GPS/INS Hybrid Guidance	9-84
	Graphics Accelerator Technology	10-85
16.3-16	Gravity Data-Based Referenced Navigation (DBRN) Systems and Data Sources	DSTL-16-60
16.2-2	Gravity Gradiometers	DSTL-16-27
16.2-1	Gravity Meters (Gravimeters)	DSTL-16-26
	Ground Shock Prediction	20-20

<b>Data Sheet</b>	Technology	Page number
	Grounding Systems (RF Hardening)	6-111
	Ground-Shock Structure Survivability	20-22
	Guns, Soft-Recoil	9-63
	Gun-Tube Technology	2-6
16.1-3	Gyro Astro Tracking Devices or Star Trackers	DSTL-16-11
	Gyrodevices (HPM NB Sources)	6-60
	Gyrotron Oscillator and Gyro-Amplifier	8-4
	Hardness Surveillance Subsystems	20-147
	Health Monitoring and Diagnostics	1-33
	Heat Engine Air-Independent Propulsion	13-35
	Heat Shield and Ablative Materials	14-54
	Helicopter Active Control	1-26
16.1-9	Hemispheric Resonating Gyroscopes (HRG)	DSTL-16-17
	HEMP Circumvention Techniques	20-142
	HEMP Coupling	20-145
	HEMP Environment Computation	20-144
	HEMP Pulse Generator	20-148
	Heterogeneous Integration of Vertical Cavity Surface Emitting Lasers (VCSELs) and Photodetectors with Complementary Metal Oxide Semiconductor (CMOS) Circuitry	11-72
	High Aspect Ratio, Strut-Braced Wing	1-14
	High Electrical Conductivity Aluminum and Polymer Composites	14-16
	High Performance Computing (HPC)	10-31
	High Thermal Conductivity Composites	14-23
	High Thermal Conductivity Structural Materials	14-34
	High-Accuracy, Thin-Film IR Optical Coatings	11-65
	High-Cycle-Life Lithium-Ion Batteries	19-42
	High-Density Interconnect	19-16
	High-Efficiency Solar Cells	19-40
	High-Efficiency, Compact 1,550-nm Semiconductor Space Communication Laser Diode Arrays	19-103
	High-Energy and Power Density Pulse Alternators and Compulsators	7-28
	High-Energy Laser (HEL) Optical Materials	11-61
	High-Energy Propellant Ingredients	19-51
	High-Energy Propellants	19-54
	Higher Blade-Cooling Effectiveness	1-14
	High-Firing Rate Ammunition	2-6

Data Sheet	Technology	Page number
	High-Performance Magneto-Optic Superlattices	14-80
	High-Permeability Alloys	14-75
	High-Power 94 GHz Radar	17-39
	High-Power Electric Propulsion	19-60
	High-Precision Interferometric SAR Plus Global Positioning System (GPS) for Accurate Topographic Mapping	17-37
	High-Pressure Fluid Jet Neutralization (Land Mines)	17-63
	High-Pressure Water Jets	17-78
	High-Rate Shape Control	14-61
	High-Repetition-Rate (and Continuous) Capacitors	7-34
	High-Resolution Microdisplay Technology Using FLCs on CMOS Silicon	11-74
	High-Saturation, High-Strength, Soft Alloys for High-Temperature Use	14-74
	High-Speed Data Buses	19-17
17.2-2	High-Speed Encryption (HSE)	DSTL-17-32
	High-Speed, High-Power Spindles with High-Feed Rate	12-27
	High-Strength, High-Fracture-Toughness Steel	14-37
	High-Strength/High-Modulus Carbon Fibers	14-38
	High-Temperature Jet Fuel	14-46
	High-Temperature Opacity	20-165
	High-Temperature Permanent Magnets	14-75
	High-Temperature Superconducting (HTS) Wires	7-37
	High-Temperature Superconducting Materials (Bulk)	14-21
	High-Temperature Superconducting Materials (Thin/Thick Films)	14-21
	High-Tenacity Polymer Fibers	2-70
	Holographic Optical Elements in Photo-Thermo-Refractive Glass	11-401
	Human Engineering (Marine Systems)	13-78
	Hybrid GPS/Inertial Navigation System Guidance	9-65
16.1-2	Hybrid Inertial Navigation Systems (Including GNSS)	DSTL-16-9
16.3-10	Hybrid Navigation Systems (Other than with Inertial Navigation Systems)	DSTL-16-48
	Hydraulic Fluids	14-47
	Hydrostatic Bearings for Rocket Engine Turbomachinery	19-63
	Hyperspectral Detection (Land Mines)	17-57
	Hyperspectral Imaging	19-73
	Hyperspectral Processing	19-74
	Imaging Optical Fuzing	2-14
	Imaging Optical Fuzing—Passive Infrared (PIR)	2-15

Data Sheet	Technology	Page number
	Imaging, Hyperspectral	19-73
	Imaging, Thermal	9-81
	Improved Cathodes: Field-Emission Cathode Arrays (Cold Cathodes)	8-4
	Improved Cathodes: Oxide-Coated Cathodes	8-5
	Improved Cooling of Helix Tubes	8-5
	Improved Near Net-Shape	12-8
	Incapacitating Acoustic Weapons	2-77
	Incomplete Shields (RF Hardening)	6-107
16.1-1	Inertial Navigation Systems (INS)	DSTL-16-85
	Information Tamperproofing	10-81
	Infrared Antennas in FPA Format	17-30
	Infrared High-Energy Laser (IR HEL) for Space Surveillance and Counterspace (CNT)	19-102
	Insensitive Compounds	2-55
	Insensitive Munitions (IMs) Technology	2-49
	Insulation for Wide-Band (WB) Sources	6-93
	Insulators	20-116
	Insulators, Low Dielectric Constant	14-25
	Integrated Circuits (ICs), Advanced Packing of	8-29
	Integrated Circuits (ICs), Compound Semiconductor	8-33
	Integrated Circuits (ICs), Converter	8-34
	Integrated Circuits (ICs), Extreme Environment	8-35
	Integrated Circuits (ICs), Field-Programmable	8-36
	Integrated Circuits (ICs), Memory	8-37
	Integrated Circuits (ICs), Microprocessor	8-38
	Integrated Circuits (ICs), Silicon-Based	8-45
	Integrated Circuits (ICs), System-on-a-Chip	8-39
	Integrated Circuits, Application-Specific (ASICs)	8-31
	Integrated Communications/Controller Technologies	19-94
	Integrated Pulse-Forming Networks (IPFNs) and Capacitors	7-42
	Intelligent Minefields (IMFs)	2-60
16.6-7	Intelligent Navigation Algorithms	DSTL-16-95
	Intercept Receivers	17-15
	Intercooled Recuperated Gas Turbine	13-35
	Intermediate-Energy-Storage Flywheels (PFNs)	6-80
	Intermetallic Alloys, Advanced	14-31
	Intermetallic Turbine Blade	1-15

<b>Data Sheet</b>	Technology	Page number
	Intumescent Protection Coatings	14-52
	Inverters (PFNs)	6-84
	Ion Beam Sources	20-94
	Ion Mobility Spectrometry (IMS)	5-17
	IR Coating Materials	11-58
	IR Optical Elements	11-57
	Jet Fuel, High-Temperature	14-46
17.2-3	Key Management	DSTL-17-33
17.2-4	Key Recovery System Failure Mode and Effects Analyses	DSTL-17-34
	Kinetic Energy (KE) Warhead Technology	2-43
	Kinetic Energy Missile (KEM) Propulsion	2-10
	Kinetic Energy Weapon (KEW) Systems	6-26
	Klystrons and Relativistic Klystrons (HPM NB Sources)	6-37
	Laboratory Simulation of High-Power Microwave/Radio Frequency (HPM/RF) Effects	6-102
	Laminar Flow Control (LFC)	1-9
	Laminated Transparencies	14-12
	Laminated/Encapsulated Combined Systems	14-12
	Land Mine Detection (Biotechnology)	17-57
	Land Mines (Air-Chisel Clearance/Neutralization)	17-56
	Land Mines (Chemical Neutralization)	17-62
	Land Mines (Directed-Energy Neutralization)	17-58
	Land Mines (EMI Detector)	17-58
	Land Mines (Emulated Biological Sensors)	17-59
	Land Mines (Explosive Array Neutralization)	17-59
	Land Mines (Flail Clearance and Neutralization)	17-63
	Land Mines (GPR Detection)	17-60
	Land Mines (High-Pressure Fluid-Jet Neutralization)	17-63
	Land Mines (Hyperspectral Detection)	17-57
	Land Mines (Laser Doppler Vibrometer Detection)	17-64
	Land Mines (Laser-Induced IR Polarization)	17-61
	Land Mines (Mine Roller)	17-65
	Land Mines (Neutron Activation Detection)	17-61
	Land Mines (Nuclear Quadrupole Detection)	17-64
	Land Mines (Passive IR Detection)	17-60
	Land Mines (Plow Clearance and Neutralization)	17-65
	Land Mines (Vapor/Particle Detection)	17-66

Data Sheet	Technology	Page number
	Land Mines (Water Jet Detection)	17-62
	Large Space Optics and Coatings	19-31
	Laser (Infrared High-Energy) for Space Surveillance and Counterspace (CNT)	19-21
	Laser (Multiple): Surface Modification/Coating	12-23
	Laser Communications, Satellite	19-24
	Laser Doppler Vibrometer Detection (Land Mines)	17-64
	Laser Launch Vehicles	19-28
	Laser Optical Materials, High-Energy	11-61
	Laser Radar (LADAR) Satellite Imaging Technology	19-71
	Laser Refrigeration by Means of Molecular Cooling	11-82
	Laser Seeker, Active	2-26
	Laser Technology, Ultra-Stable	19-100
	Laser Weapon, Tactical	9-41
	Laser, Free Electron	6-58
	Laser, Mid-IR, CW, and Power-Scalable Fiber	11-49
	Laser, Sodium High-Energy	19-99
	Laser, Ultra-Fast Fiber	11-31
	Laser-Aided Semiconductor Processing	11-53
	Laser-Induced IR Polarization (Land Mines)	17-61
	Lasers in the 3–15 μm Range	11-26
	Lasers, Frequency-Agile High-Energy	19-101
	Lasers, Double-Clad Fiber	11-30
	Lasers, Excimer	11-16
	Lasers, Gamma-Ray	11-25
	Lasers, Gamma-Ray	6-20
	Lasers, Mid-IR	11-29
	Lasers, Optically Pumped	11-23
	Lasers, Organic Semiconductor Thin-Film Edge-Emitting	11-32
	Lasers, Photonic Crystal Nanocavity	11-27
	Lasers, Solid-State (HELs)	11-21
	Lasers, Solid-State (LELs)	11-22
	Lasers, Surface-Emitting	11-18
	Lasers, Transfer	11-15
	Lasers, Vertical Cavity Surface Emitting	11-72
	Lasers, X-Ray	11-24
	Launch Vibration Isolation System (LVIS)	19-27

Data Sheet	Technology	Page number
	Lethality and Vulnerability Modeling Technology	2-48
	LIDAR (LADAR) Seeker	9-66
	LIDAR, Absorption	5-22
	LIDAR, Modulated Pulse	17-70
	LIDAR, Streak Tube Imaging	17-72
	Lightweight Multifunctional Satellite Structures	19-86
	Lightweight, Low Thermal Expansion Materials	14-36
	Lithium Ion Battery (Rechargeable)	7-22
	Lithium Polymer Batteries (PFNs)	6-82
	Lithium Polymer Battery (Rechargeable)	7-23
	Lithium Thermal Battery (Primary)	7-10
	Lithography, Small Critical-Dimension	8-54
	Long- and Dual-Wavelength IR FPA Technology	17-28
	Low Dielectric Constant Insulators	14-25
	Low-Cost Titanium	14-8
	Low-Observable Gap Fillers	14-46
16.5-3	Low-Power Clocks and Oscillators	DSTL-16-83
	Low-Power Electric Propulsion	19-58
	Low-Repetition-Rate (LRR) and Burst Capacitors	7-32
16.3-11	LPI/LPD Radar Altimeters and Fathometers	DSTL-16-49
	Machine Tool Metrology	12-18
	Machine Tools, Parallel Kinematic: (Stewart Platform, Hexapod, Parallel Linkage Structures, and so forth)	12-58
	Magnetic Amorphous Alloys	14-76
16.3-15	Magnetic and Electric Field Data-Based Referenced Navigation (DBRN) Systems and Data Sources	DSTL-16-58
16.4-11	Magnetic and Electric Field Sensor Arrays	DSTL-16-76
	Magnetic Bearings	1-15
	Magnetic Flux Compression Generators (MFCGs)	7-17
16.4-8	Magnetic Gradiometers	DSTL-16-73
	Magnetic Materials for Enhanced Magnetocaloric Effect	14-82
	Magnetic Nanocrystalline Alloys	14-77
	Magnetic Nanoparticle Composites	14-79
16.6-6	Magnetic Navigation	DSTL-16-93
	Magnetically Insulated Line Oscillator (MILO) (HPM NB Sources)	6-44
16.4-6	Magnetometers—Fiber Optic	DSTL-16-71
16.4-5	Magnetometers—FluxGate	DSTL-16-70

<b>Data Sheet</b>	Technology	Page number
16.4-4	Magnetometers—Induction Coil	DSTL-16-69
16.4-7	Magnetometers—MEMS and Magnetoresistive	DSTL-16-72
16.4-3	Magnetometers—Nuclear Precession (Proton/Overhauser/Helium-3)	DSTL-16-68
16.4-2	Magnetometers—Optically Pumped/Electron Resonance (Helium-4, Potassium, Rubidium, or Cesium)	DSTL-16-67
16.4-1	Magnetometers—Superconducting Quantum Interference Devices	DSTL-16-66
	Magnetostrictive Alloys	14-76
	Marine-Platform Acoustic Devices and Materials	17-22
	Marine-Platform Active Noise Cancellation	17-22
	Mass Spectrometry (MS)	5-18
	Material Response	20-166
	Material Response To Particles	20-38
17.1-1	Mathematics	DSTL-17-12
	Measurement (for obscurants)	5-30
	Measurement Systems	20-170
	Mechanical Enclosures	20-171
	Mechanically Pumped Thermal Systems	19-45
	Medical Informatics	4-33
	Medical Protective Technologies	5-6
	Medium-Power Electric Propulsion	19-59
	Medium-Repetition-Rate Capacitors	7-33
	Memory Integrated Circuits (ICs)	8-37
	MEMS and FPA Adaptive Optics	11-84
	MEMS Flow Control	1-18
16.1-6	MEMS Inertial Measurement Unit (Accelerometers Only)	DSTL-16-14
	MEMS Navigation Instrumentation, Solid-State	19-25
	MEMS Processes	14-64
	MEMS, Technology for	8-57
	MEMS: Soft Lithography	8-55
	Mesoscale Machining Processes	14-65
	Mesoscale Modeling and Simulation (M&S) Technology	2-47
17.1-5	Message Integrity and Non-Repudiation	DSTL-17-18
	Metal Matrix Composites	14-10
	Metal Structures	14-68
	Meteorology, Battlescale Lower Atmosphere	2-32
	Micro Air Vehicle (MAV)	1-32
	Micro Air Vehicles (MAVs)	12-38

<b>Data Sheet</b>	Technology	Page number
	Microelectromechanical Systems (MEMS)	1-30
16.1.10	Microelectromechanical Systems (MEMS) Gyroscopes	DSTL-16-18
16.1-5	Microelectromechanical System (MEMS) Inertial Measurement Units or IMU and IMU on-a-Chip	DSTL-16-13
16.1-11	Microelectromechanical Systems (MEMS) Linear Accelerometers	DSTL-16-19
	Microelectromechanical Systems (MEMS) Space Sensors and Actuators	19-19
	Microelectromechanical Systems (MEMS)	12-32
	Micromachines	12-31
	Micrometeorology	5-8
	Micro-optical Elements (MOEs) on Micro-optical Table Systems (MOTS)	11-36
	Micro-optoelectro-mechanical Systems (MOEMS) Electronics for Space Optics	19-35
	Microphotonic Technology	19-34
	Microprocessor Integrated Circuits (ICs)	8-38
	Microturbines	7-13
	Microwave Power Modules (MPMs)	8-6
	Microwave Windows (HPM NB Sources)	6-66
	Mid-IR and Far-IR—Radiance (obscurants)	5-26
	Mid-IR Laser Sensor Systems	19-70
	Mid-IR Lasers	11-19
	Mid-IR, CW, Power-Scalable Fiber Laser	11-29
	Millimeter Wave—Scattering and Absorbing (obscurants)	5-26
	Millimeter-Wave (mmW) Air Target Fuzing	2-14
	Millimeter-Wave (mmW) Traveling Wave Tubes (TWTs)	8-6
	Millimeter-Wave Targeting and Imaging System (MMWTIS)	19-72
	Mine Hunters, Expendable Underwater	17-74
	Mine Roller (Land Mines)	17-65
	Minesweeping	17-74
	Miniaturized Gauges	20-17
	Minimization of Number of Tests (HPM)	6-103
	Missile Propulsion	2-64
	Missile, Fiber-Optic	9-68
	Mixing and Ignition	20-73
	MmW Seekers, Advanced Components for	2-28
	Mode Control/Mode Conversion (HPM NB Sources)	6-65
	Modulated Pulse LIDAR	17-70
	Modulation Techniques (HPM NB Sources)	6-67
	MOEMS Manufacturing Technology	11-97

<b>Data Sheet</b>	Technology	Page number
	Molecular Electronics	8-43
	Molecular Manufacturing (Nanotechnology), Technology for	12-10
	Molecular Motors	7-46
	Monitoring and Sensing of Cutting Tools and Machine Tools	12-31
	Monolithic Ceramics, Advanced	14-64
	MOS Turn-Off Thyristor	7-42
	MOS-Controlled Thyristor (MCT)	7-41
	Motors, Molecular	7-46
	Moving Charge Effects	20-58
	Multi-Aspect Data Fusion Processing for Active Sonar	17-10
	Multifunction Systems and Subsystems (Signature Control)	18-15
	Multi-Laser Surface Modification/Coating, Technology for	12-14
	Multiple Quantum Well and Superlattice Layered Electronic Materials	14-22
	Multiple Series Diode	20-119
	Multispectral (Visible, Infrared, Millimeter, and Possibly Centimeter) (obscurants)	5-27
	Multivariable Reconfigurable Control	1-27
	Multiwave Cerenkov Generator (MWCG) (HPM NB Sources)	6-52
	Nanocrystalline Materials and Structures	14-35
16.1-12	Nanoelectromechanical Systems (NEMS) Linear Accelerometers	DSTL-16-20
	Nanomaterials, Creation and Packaging of	5-30
	Nanophase Coatings, Technology for	12-13
	Nanostructured Refractory Metals	14-13
	Nanotechnology (Electronic Fabrication)	8-17
	Nanotechnology (Molecular Manufacturing)	12-16
	Narrow-Band (NB) Antennas	6-86
	NDE Data Fusion	12-24
	NDE Using Smart Materials	12-23
	Network Access to the End User	10-14
	Network Attached Storage (NAS)	10-24
	Network Management	10-66
	Neutral Particle Beams (NPBs)	6-10
	Neutron Activation Detection (Land Mines)	17-61
	Neutron Beam Sources	20-93
	New-Capability Fuels	1-19
	Next-Generation Lithography	8-19
	Nickel Metal Hydride Battery (Rechargeable)	7-24

<b>Data Sheet</b>	Technology	Page number
	NLO Materials	11-60
	Nonchromated Sealants	14-45
	Nonlinear Material Development for the 3.5 $\mu$ m-Wavelength Region	11-45
	Nontraditional Insertions	5-10
	Novel <111> Piezoelectric Optoelectronic Devices for 1.0–1.23 $\mu m$ Laser Wavelength Range	11-17
	Nozzle, Fluidic	1-14
	Nuclear Ground-Shock Simulator	20-21
	Nuclear Hardness Hardware	20-106
	Nuclear Hardness Software	20-105
	Nuclear Hardness Surveillance	20-107
	Nuclear Isomers	2-54
	Nuclear Quadrupole Detection (Land Mines)	17-64
	Nuclear Quadrupole Resonance	17-76
	Obscurant Clearing	5-31
	Obscurants (Precision Particle Production)	5-29
	Obscurants (Spectral Direction Selectivity)	5-27
	Obscurants (Technology Coupling)	5-29
	Obscurants (Temporal Selectivity)	5-28
	Obscurants, Multispectral	5-27
	Obscurants, Projected	5-31
16.6-3	Odor Navigation	DSTL-16-90
	Open-Ocean-Deployed Passive Sonar	17-15
	Operate Through	20-102
	Optical and Infrared (IR) Simulators	20-152
	Optical Coatings, High-Accuracy Thin Film IR	11-65
	Optical Fiber Magnetic Field Sensors	17-73
	Optical Fluoride Materials	11-55
	Optical Interconnection (Chip-Level)	11-91
	Optical Interconnects, Silicon-Based	11-90
	Optical Lithography, Enhanced	8-15
	Optical Metrology (Aspheric Surfaces)	11-39
	Optical Metrology (Wafer Inspection)	8-21
	Optical Networks	10-15
	Optical Networks and Self-Organizing Systems	11-93
	Optical Packet Switching	11-92

<b>Data Sheet</b>	Technology	Page number
	Optical Sensing Technology, Advanced	11-79
	Optical Tape Recording Technology	11-71
	Optical Waveguides via Current Steering of Beam	11-98
16.5-4	Optically Pumped and Optical Clocks	DSTL-16-84
	Optically Pumped Lasers	11-23
	Optically Transparent Armor	14-9
	Optics (Integrated): SoL-Gel Waveguides	11-80
	Optics and Coatings, Large Space	19-31
	Optics, Cooled Transmissive	19-32
	Optics, Precision Conformal	11-63
	Optimization of Thin Silicon Windows	19-77
	Optoelectronic Micro Network Technology	11-97
	Optoelectronic Systems, Digital	11-94
	Optoelectronics, Plastic	11-51
	Organic Semiconductor Thin-Film Edge-Emitting Lasers	11-32
	Oxide Dispersion-Strengthened Molybdenum	14-15
	Paint Stripping, Aircraft	14-44
	Parallel Kinematic Machine Tools (Stewart Platform, Hexapod, Parallel Linkage Structures, and so forth)	12-28
	Particle Motion Gauges	20-179
	Particle Velocity Gauges	20-26
	Passive Acoustic Damping Materials	14-50
	Passive Detection of Vehicles from a Land-based Site	17-4
	Passive Detection of Vehicles from an Airborne Munition	17-4
	Passive Infrared (IR)	5-21
	Passive IR Detection (Land Mines)	17-60
	Passive Optical Limiting	11-81
	Passive Sonar Adaptive Beamforming, Null Steering, and Sidelobe Reduction	17-19
	Passive Sonar Array Noise	17-19
	Passive Sonar Data Fusion	17-18
	Passive Sonar Hull-Mounted Receiving Arrays	17-20
	Passive Sonar Ranging	17-18
	Passive Sonar Reception	17-17
	Passive Sonar Target Tracking	17-17
	Peaking Capacitor	20-149
	Penetrating Weapon (PW) Effects on Buried Targets	20-51

Data Sheet	Technology	Page number
	Penetrating Weapon (PW) Effects on Space Targets	20-50
	Penetrating Weapon (PW) Effects on Surface Targets	20-49
	Performance-Seeking Aircraft Control (PSAC)	1-27
	Phased Arrays	6-95
	Phase-Locking (HPM NB Sources)	6-62
	Photochemical Reaction Center Synthesis/Structure (PRCS)	7-45
	Photonic Crystal Nanocavity Lasers	11-27
	Photonic Crystal Technology	11-50
	Photonics for Space Applications	19-33
	Photovoltaics (PVs)	7-14
	Piezoelectric Optoelectronic Devices for 1.0–1.23 μm Laser Wavelength Range	11-29
	Plasma Concentration	20-153
	Plasma Discharge	20-77
	Plastic Optoelectronics	11-51
	Plow Clearance and Neutralization (Land Mines)	17-65
	Polymer Composite Armor Material Systems	14-11
	Polymer Liquid Crystal Flake Material	11-64
	Polymer Matrix Composites (PMC)	14-33
	Polymer Structures	14-69
	Polynitrocubanes and Polyazacubanes (HEDM)	2-54
	Power-Isolation Devices	20-114
	Precision Conformal Optics	11-36
	Precision Particle Production (for obscurants)	5-29
	Precision Profile Grinders	12-28
	Precision-Guided Submunitions	17-79
	Prediction of TREE/SGEMP	20-103
	Processing, Hyperspectral	19-74
	Production and Design for Collective Protection	5-5
	Production and Design for Protective Clothing	5-5
	Projected Obscurants	5-31
	Projectiles, Variable Lethality	2-77
	Propellant Ingredients, High-Energy	19-51
	Propellant, Cryogenic: Storage and Refrigeration	19-61
	Propellants, High-Energy	19-54
	Propulsion Materials (Energetic): Solid-Particle Chemistry	19-115
	Propulsion, Electrothermal Chemical (ETC)	2-19

<b>Data Sheet</b>	Technology	Page number
	Propulsion, Heat Engine Air Independent	13-35
	Propulsion, High-Power Electric	19-60
	Propulsion, Kinetic Energy Missile (KEM)	2-10
	Propulsion, Low-Power Electric	19-58
	Propulsion, Medium-Power Electric	19-59
	Propulsion, Missile	2-64
	Propulsion, Solar Thermal	19-49
	Propulsion, Supersonic Combustion Ramjet (Scramjet)	2-10
	Proton Exchange Membrane Fuel Cell (PEMFC)	7-11
	Proton Exchange Membranes (PEM)	14-52
	Proximity Fuze Sensors for Aimable Warheads	2-39
	Pulse Shortening (HPM NB Sources)	6-68
	Pulse Transformers	7-39
	Pulsed Inductors (PFNs)	6-81
	Pulsed Transformers (PFNs)	6-85
	Pulse-Detonation Engines (PDEs)	1-16
	QH-Effect Materials	14-86
17.1-7	Quantum Cryptography	DSTL-17-22
	Quantum Dots (QDs) for Radiation Monitoring	19-20
	Quantum Information Processing/Communications (QIPC)	10-32
	Quantum Nano-Optics of Semiconductors (QNOS)	11-73
	Quantum Well IR Photodetectors (QWIPs)	19-69
	Radar Transmitter, Ultra-Stable Solid-State	17-39
	Radar, FOPEN GMTI	17-33
	Radar, High-Power 94 GHz	17-39
	Radar, Space-Based	19-75
	Radar, Space-Based	9-83
	Radar-Based ATR	17-34
	Radars, Airborne "Stealth"	17-35
	Radars, Bistatic Surveillance	17-36
	Radiation Hydrodynamics Flow	20-164
	Radiation Testing	20-98
	Radiation-Hardened (Rad-Hard) Components	20-100
	Radiation-Hardened (Rad-Hard) Instrumentation	20-99
	Radio Frequency (RF) Hardening of Apertures	6-106
	Radios, Software-Based	9-98

<b>Data Sheet</b>	Technology	Page number
	Ramjets/Scramjets	1-17
	Rapid Airborne Mine Clearance System	17-75
	Rapid Prototyping Manufacturing (RPM)	12-8
	Reactive Munitions	17-78
	Real-Time, In-Field Nondestructive Evaluation (NDE) for Rotorcraft	2-68
	Regenerative Filtration	5-6
	Relational Toxicology	5-14
	Relativistic Backward Wave Oscillators (BWOs) (HPM NB Sources)	6-50
	Relativistic Diffraction Generator (RDG) (HPM NB Sources)	6-54
	Relativistic Magnetrons (HPM NB Sources)	6-41
	Reltrons and Super Reltrons (HPM NB Sources)	6-48
	Repair of Bismaleimide Composite Structures	14-45
	Repair of Metallic Aircraft Structure	14-44
	Resistive Isolation Cables	20-115
	Reverberation Suppression for Active Sonar	17-8
	RF Tags, Active	17-37
	Rigid Body Displacement	20-13
16.1-7	Ring Laser Gyroscopes (RLG)	DSTL-16-15
	Robotics for Explosive Ordnance Disposal (EOD), Advanced	2-215
	Robots, Battlefield	12-36
	Robots, Fractal Self-Shaping	12-40
	Robots, Undersea	12-37
	Rocket Turbomachinery Design and Modeling	19-64
	Rotorcraft Structures, Smart Composite	1-23
	ROVs, Electric	13-64
	Sample Collection	5-23
	SAR, FOPEN	17-33
	SAR/ISAR Missile Seekers	17-38
	Satellite and Ground System Simulation	19-95
	Satellite Debris Shield and Removal	20-106
	Satellite Laser Communications (LASERCOM)	19-24
	Scattering Station Design	20-162
17.2-5	Secret Sharing Schemes	DSTL-17-37
	Self-Assembling Magnetic Materials	14-85
	Self-Channeling NLO Materials Development Technology	11-47
	Semi-Solid Metalworking (SSM)	12-9

Data Sheet	Technology	Page number
	Sensor Degradation	20-97
	Sensors, Bio-Based	4-17
	Severe Plastic Deformation (SPD)	14-39
	Shape Memory Polymer/Magnetohydrodynamic (SMP/MHD) Microfluidic Systems	19-88
	Shape-Adaptive Structures	14-60
	Shaped Charges	20-30
	Shearography, Digital	12-23
	Shielding Materials (RF Hardening)	6-108
	Ship Topside and Corrosion-Control Coatings	14-49
	Shock Isolation	20-32
	Shock Tubes	20-18
	Shock-Wave Instrumentation	20-15
	Shock-Wave Measurement	20-36
	Silicon Carbide (SiC)	8-8
	Silicon Structures	14-66
	Silicon-Based Integrated Circuits (ICs)	8-45
	Silicon-Based Optical Interconnects	11-90
	Silicon-Carbide (SiC) Structures	14-67
	Silicon-on-Insulator (SOI) Separation by the Implantation of Oxygen (SIMOX)	8-9
	Silver Zinc Battery (Rechargeable)	7-25
	Single Pixel Three-Color Layered Detector	17-29
	Single-Stage-To-Orbit (SSTO) Reusable Launch Vehicle (RLV)	1-33
	Small- and Medium-Caliber Guidance and Control	2-26
	Small Critical-Dimension Lithography	8-22
	Smart Composite Rotorcraft Structures	1-23
	Smart Fuzes	9-63
	Smart Software for Autonomous Operations	19-92
	Smart Structures/Materials	1-57
	Sodium High-Energy Laser (HEL)	19-99
	Soft Lithography for Microelectromechanical Systems (MEMS)	8-23
	Soft Switch Inverters	7-36
	Soft-Recoil Guns/Howitzers	9-63
	Software-Based Radios	9-98
	Solar Blind Ultraviolet Sensor Technology	17-29
	Solar Cells, High-Efficiency	19-40
	Solar Furnace Systems	20-66

Data Sheet	Technology	Page number
	Solar Panels, Ultra-Lightweight Flexible	19-39
	Solar Parabolic Dish	20-65
	Solar Power Tower	20-64
	Solar Thermal Propulsion (STP)	19-49
	SoL-Gel Waveguides for Integrated Optics	11-46
	Solid Oxide Fuel Cell (SOFC)	7-12
	Solid-Particle Chemistry of Energetic Propulsion Materials	19-56
	Solids Dispersion	5-10
	Solid-State Image-Intensifier Technology	17-26
	Solid-State Lasers (HELs)	11-21
	Solid-State Lasers (LELs)	11-22
	Solid-State Lateral Switches (HPM WB Sources)	6-75
	Solid-State Microelectromechanical Systems (MEMS) Navigation Instrumentation	19-10
	Solid-State Photoconductive Switches (HPM WB Sources)	6-73
	Solid-State Semiconductor Switches (HPM WB Sources)	6-71
	Sonar (Active), Submarine Ahead-Looking	17-26
	Sonar (Active): Multi-Aspect Data Fusion Processing	17-27
	Sonar (Active): Reverberation Suppression	17-20
	Sonar (Passive) Data Fusion	17-44
	Sonar (Passive) Hull-Mounted Receiving Arrays	17-47
	Sonar (Passive) Ranging	17-43
	Sonar (Passive) Reception	17-42
	Sonar (Passive) Target Tracking	17-41
	Sonar Adaptive Beamforming, Null Steering, and Sidelobe Reduction, Passive	17-46
	Sonar Array Noise, Passive	17-45
	Sonar for Anti-Torpedo Torpedoes	17-30
	Sonar for Mine Countermeasures, Active	17-29
	Sonar for Submersibles, Advanced Active	17-25
	Sonar for Underwater Weapons, Active	17-28
	Sonar Signal and Data Processing for Multiplatforms, Active	17-19
	Sonar, Active: Channel-Adaptive Processing	17-22
	Sonar, Environmentally Adaptive Active	17-23
	Sonar, Open-Ocean-Deployed Passive	17-38
	Sonar, Synthetic Aperture	17-71
	Sonar, Toroidal Volume Search	17-70
	Sonobuoys	17-16

Data Sheet	Technology	Page number
	Source-Diode Coupling	20-121
	Space Autonomous Operations and Automated Servicing Technologies	19-93
	Space Cluster Navigation Software	19-8
	Space Environmental Ionizing-Particle Detectors	19-81
	Space Materials Development via Neural Networks	19-87
	Space Optics, MOEMS for	19-35
	Space-Based GMTI/AMTI	17-38
	Space-Based Radar (SBR)	19-75
	Space-Based Radar	9-83
	Spacecraft Lubricants	14-43
	Spacecraft Structural Response	20-40
	Spacecraft Survivability Against the Natural Space Environment	19-82
	Space-Qualified Clocks	19-6
	Space-Qualified Subsystem Technologies	19-15
	Space-Qualified Very Large-Scale Integrated (VLSI) Components	19-14
	Space-Qualified Very Large-Scale Integrated (VLSI) Technologies	19-13
	Spark Gaps for Wide-Band (WB) Sources	6-69
	Specialty Transparent Materials	11-59
	Spectral Direction Selectivity (for obscurants)	5-27
	Spectrometry, Field Ion	5-20
	Spectroscopy (Electro-optical Properties)	5-22
	Spring Magnetic Film	14-84
	SREMP Coupling	20-111
	SREMP Current Generators	20-109
	SREMP Environments	20-110
	SREMP Simulators	20-90
	STAP for Airborne Radars	17-33
16.3-12	Stellar Data-Based Referenced Navigation (DBRN) Systems and Data Sources	DSTL-16-50
16.6-1	Stereovision Navigation	DSTL-16-88
	Storage and Refrigeration—Cryogenic Propellant	19-61
	Streak Tube Imaging LIDAR	17-72
17.1-6	Stream Ciphers	DSTL-17-20
	Stress Waves	20-168
	Structural Carbon-Carbon Composites	14-35
	Structural Coating	20-31
	Structural Materials, High Thermal Conductivity	14-34

Data Sheet	Technology	Page number
	Structural Prognostics and Health Management (PHM)	1-23
	Submarine Ahead-Looking Active Sonar	17-10
	Subwavelength Structured (SWS) Surfaces	11-37
	Superalloys	14-37
	Superconducting Magnetic Bearings, Technology for	12-16
	Superconducting Quantum Interference Devices	17-77
	Superconductors (PFNs)	6-83
16.1-13	Superfluid Quantum Gyroscopes	DSTL-16-21
	Supersonic Combustion Ramjet (Scramjet) Propulsion	2-10
	Surface Acoustic Wave (SAW)	5-19
	Surface-Emitting Lasers	11-18
	Surveillance of Space From Space	19-77
	Surveillance System Technology, Advanced	19-147
	Switches	20-150
	Synthetic Aperture Sonar	17-71
	System Survivability Against Airblast	20-14
	System-Level HEMP Simulator	20-141
	System-on-a-Chip Integrated Circuits (ICs)	8-392
	Systems Engineering and Integration (Signature Control)	18-25
	Tactical Internet	9-97
	Tactical Laser Weapon	9-41
16.6-4	Tactile Navigation	DSTL-16-91
	Tailless	1-7
	Tailored Property Materials	18-9
	Tantalum Bore Coatings	14-15
16.6-5	Taste Navigation	DSTL-16-92
	Technology Coupling (for obscurants)	5-29
	Technology for Microelectromechanical Systems (MEMS)	8-25
	Technology for the 1,000- to 2,000-nm Wavelength Region	17-26
	Telemedicine	4-28
	Temporal Selectivity (for obscurants)	5-28
	Terminal Guidance	2-63
16.3-13	Terrain Data-Based Referenced Navigation (DBRN) Systems and Data Sources	DSTL-16-52
	Thermal Barrier Coatings for Aeropropulsion	14-53
	Thermal Effects Simulator: Infrared (IR) Detectors	20-67
	Thermal Effects Simulator: Optical Semiconductor	20-69

<b>Data Sheet</b>	Technology	Page number
	Thermal Environment Simulation	20-78
	Thermal Imaging	9-81
	Thermal Radiation Chemical Sources	20-63
	Thermal Radiation Instrumentation	20-75
	Thermal Radiation Modeling	20-79
	Thermal Radiation Testing	20-74
	Thermal Spectral Measurements	20-76
	Thermal/Blast Simulator	20-11
	Thermionic Converters	7-15
	Thermomechanical Shock (TMS) Prediction	20-33
	Thermomechanical Shock (TMS) Simulator	20-34
16.5-1	Time and Frequency Distribution Systems	DSTL-16-80
	Titanium, Low-Cost	14-8
	Topology and System Models (EM Systems)	6-100
	Toroidal Volume Search Sonar	17-70
	Toxicology, Relational	5-14
	Training of Health Personnel	4-18
	Transfer Lasers (COIL)	11-15
	Transient Suppression (RF Hardening)	6-110
	Transition Metal Dithiolene Dye Material	11-66
	Traveling Wave Tubes (TWTs) (HPM NB Sources)	6-46
	Treat Traumatic Injury, Abdominal Bleeding, Burns, and Provide Organ Replacement	4-29
	TREE/SGEMP Hardening	20-89
	TREE/SGEMP Simulators	20-87
	Tribology in Severe Environments	14-17
	Triggered Gas Switches (HPM WB Sources)	6-76
	Tungsten Alloys	14-13
	Two- and Three-Dimensional, Optically Written, Real-Time Displays	11-77
	Ultra Wide Band (UWB) Communications	10-163
	Ultra-Fast Fiber Lasers	11-31
	Ultra-High Hardness Steel Plate	14-7
	Ultra-High Strength; Intermediate Fracture Toughness Steels	14-7
	Ultrahigh-Density Magnetic Recording Materials	14-78
	Ultrahigh-Performance Soft Magnetic Materials for High-Temperature Turbine Applications	14-74
	Ultra-High-Speed Photonics for Networking, Instrumentation, and Signal Processing	11-96

Ultra-Lightweight Armor Systems	Data Sheet	Technology	Page number
Ultra-Lightweight Metallic Materials		Ultra-Lightweight Armor Systems	14-11
Ultrastable Laser Technology		Ultralightweight Flexible Solar Panels	19-39
Ultrastable Laser-Diode Space-Tracking Arrays   19-104     Ultra-Stable Solid-State Radar Transmitter   17-39     Unattended Ground Sensors   9-81     Unattended Ground Sensors   17-27     Underground Test (UGT) Environment Gauges   20-27     Underground Weapons Effects Testbed   20-161     Undersea Robots   12-37     16.3-8   Underwater Acoustic Beacon Navigation Systems   DSTL-16-46     16.4-9   Underwater Electric Field Sensors   DSTL-16-74     Underwater Nuclear Shock Prediction   20-28     Underwater Nuclear Shock Simulation   20-29     Underwater Weapons Passive Sensors   17-16     Unmanned Air Vehicles   9-82     Unmanned Ground Vehicles   9-82     Urban Modeling   5-8     UUV Networks   13-64     Vacuum Power Flow   20-95     Vapor/Particle Detection (Land Mines)   17-66     Variable Addressability Imaging Systems   11-75     Variable Addressability Imaging Systems   11-83     Vetronics   9-44     Vibration Suppression   14-60     Virtual Cathode Oscillator (Vircator) (HPM NB Sources)   6-56     Virtual Reality (VR) Display Technology   10-86     Viscous Drag Reduction   1-9     Viscous Plow Control   1-10     16.3-9   Viscous Flow Control   1-10     Warm X-Ray Debris Shield   20-123     Water Jet Detection (Land Mines)   17-62		Ultra-Lightweight Metallic Materials	14-34
Ultra-Stable Solid-State Radar Transmitter		Ultrastable Laser Technology	19-100
Unattended Ground Sensors   9-81     Uncooled IR Array Technology   17-27     Underground Test (UGT) Environment Gauges   20-27     Underground Weapons Effects Testbed   20-161     Undersea Robots   12-37     16.3-8   Underwater Acoustic Beacon Navigation Systems   DSTL-16-46     16.4-9   Underwater Electric Field Sensors   DSTL-16-74     Underwater Nuclear Shock Prediction   20-28     Underwater Weapons Passive Sensors   17-16     Unmanned Air Vehicles   9-82     Unmanned Air Vehicles   9-82     Unban Modeling   5-8     Utban Modeling   5-8     Utban Modeling   5-8     Utban Wort/Particle Detection (Land Mines)   11-75     Variable Addressability Imaging Systems   11-75     Variable Lethality Projectiles   2-77     Variable Wavelength Imaging Spectrometers   11-83     Vetronics   9-44     Vibration Suppression   14-60     Virtual Reality (VR) Display Technology   10-86     Viscous Drag Reduction   1-9     Viscous Flow Control   1-10     16.3-9   Viscous Navigation Systems   DSTL-16-47     Vulnerability Assessment   20-101     Warm X-Ray Debris Shield   20-123     Water Jet Detection (Land Mines)   17-62		Ultrastable Laser-Diode Space-Tracking Arrays	19-104
Uncooled IR Array Technology   17-27     Underground Test (UGT) Environment Gauges   20-27     Underground Weapons Effects Testbed   20-161     Undersea Robots   12-37     16.3-8   Underwater Acoustic Beacon Navigation Systems   DSTL-16-46     16.4-9   Underwater Electric Field Sensors   DSTL-16-74     Underwater Nuclear Shock Prediction   20-28     Underwater Nuclear Shock Simulation   20-29     Underwater Weapons Passive Sensors   17-16     Unmanned Air Vehicles   9-82     Unmanned Ground Vehicles   9-82     Unmanned Ground Vehicles   9-44     Urban Modeling   5-8     UUV Networks   13-64     Vacuum Power Flow   20-95     Vapor/Particle Detection (Land Mines)   17-66     Variable Addressability Imaging Systems   11-75     Variable Wavelength Imaging Spectrometers   11-83     Vetronics   9-44     Vibration Suppression   14-60     Virtual Cathode Oscillator (Vircator) (HPM NB Sources)   6-56     Virtual Reality (VR) Display Technology   10-86     Viscous Drag Reduction   1-9     Viscous Flow Control   1-10     16.3-9   Vision Navigation Systems   DSTL-16-47     Vulnerability Assessment   20-101     Warm X-Ray Debris Shield   20-123     Water Jet Detection (Land Mines)   17-62		Ultra-Stable Solid-State Radar Transmitter	17-39
Underground Test (UGT) Environment Gauges   20-27     Underground Weapons Effects Testbed   20-161     Undersea Robots   12-37     16.3-8   Underwater Acoustic Beacon Navigation Systems   DSTL-16-46     16.4-9   Underwater Electric Field Sensors   DSTL-16-74     Underwater Nuclear Shock Prediction   20-28     Underwater Nuclear Shock Simulation   20-29     Underwater Weapons Passive Sensors   17-16     Unmanned Air Vehicles   9-82     Unmanned Ground Vehicles   9-44     Urban Modeling   5-8     UUV Networks   13-64     Vacuum Power Flow   20-95     Vapor/Particle Detection (Land Mines)   17-66     Variable Addressability Imaging Systems   11-75     Variable Lethality Projectiles   2-77     Variable Wavelength Imaging Spectrometers   11-83     Vetronics   9-44     Vibration Suppression   14-60     Virtual Cathode Oscillator (Vircator) (HPM NB Sources)   10-86     Viscous Flow Control   1-10     16.3-9   Vision Navigation Systems   DSTL-16-47     Vulnerability Assessment   20-101     Warm X-Ray Debris Shield   20-123     Water Jet Detection (Land Mines)   17-62		Unattended Ground Sensors	9-81
Underground Weapons Effects Testbed   20-161     Undersea Robots   12-37     16.3-8   Underwater Acoustic Beacon Navigation Systems   DSTL-16-46     16.4-9   Underwater Electric Field Sensors   DSTL-16-74     Underwater Nuclear Shock Prediction   20-28     Underwater Nuclear Shock Simulation   20-29     Underwater Weapons Passive Sensors   17-16     Unmanned Air Vehicles   9-82     Unmanned Ground Vehicles   9-44     Urban Modeling   5-8     UUV Networks   13-64     Vacuum Power Flow   20-95     Vapor/Particle Detection (Land Mines)   11-75     Variable Addressability Imaging Systems   11-75     Variable Wavelength Imaging Spectrometers   11-83     Vetronics   9-44     Vibration Suppression   14-60     Virtual Cathode Oscillator (Vircator) (HPM NB Sources)   6-56     Virtual Reality (VR) Display Technology   10-86     Viscous Flow Control   1-10     16.3-9   Vision Navigation Systems   DSTL-16-47     Vulnerability Assessment   20-101     Warm X-Ray Debris Shield   20-123     Water Jet Detection (Land Mines)   17-62		Uncooled IR Array Technology	17-27
16.3-8         Undersea Robots         12-37           16.3-8         Underwater Acoustic Beacon Navigation Systems         DSTL-16-46           16.4-9         Underwater Electric Field Sensors         DSTL-16-74           Underwater Nuclear Shock Prediction         20-28           Underwater Nuclear Shock Simulation         20-29           Underwater Weapons Passive Sensors         17-16           Unmanned Air Vehicles         9-82           Unmanned Ground Vehicles         9-44           Urban Modeling         5-8           UUV Networks         13-64           Vacuum Power Flow         20-95           Vapor/Particle Detection (Land Mines)         17-66           Variable Addressability Imaging Systems         11-75           Variable Ethality Projectiles         2-77           Variable Wavelength Imaging Spectrometers         11-83           Vetronics         9-44           Vibration Suppression         14-60           Virtual Reality (VR) Display Technology         10-86           Viscous Drag Reduction         1-9           Viscous Flow Control         1-10           16.3-9         Vision Navigation Systems         DSTL-16-47           Vulnerability Assessment         20-101           Warm X-Ra		Underground Test (UGT) Environment Gauges	20-27
16.3-8         Underwater Acoustic Beacon Navigation Systems         DSTL-16-46           16.4-9         Underwater Electric Field Sensors         DSTL-16-74           Underwater Nuclear Shock Prediction         20-28           Underwater Nuclear Shock Simulation         20-29           Underwater Weapons Passive Sensors         17-16           Unmanned Air Vehicles         9-82           Unmanned Ground Vehicles         9-44           Utb Metworks         13-64           Vacuum Power Flow         20-95           Vapor/Particle Detection (Land Mines)         17-66           Variable Addressability Imaging Systems         11-75           Variable Wavelength Imaging Spectrometers         11-83           Vetronics         9-44           Vibration Suppression         14-60           Virtual Cathode Oscillator (Vircator) (HPM NB Sources)         6-56           Virtual Reality (VR) Display Technology         10-86           Viscous Drag Reduction         1-9           Viscous Flow Control         1-10           16.3-9         Vision Navigation Systems         DSTL-16-47           Vulnerability Assessment         20-101           Warm X-Ray Debris Shield         20-123           Water Jet Detection (Land Mines)         17-62		Underground Weapons Effects Testbed	20-161
16.4-9       Underwater Electric Field Sensors       DSTL-16-74         Underwater Nuclear Shock Prediction       20-28         Underwater Nuclear Shock Simulation       20-29         Underwater Weapons Passive Sensors       17-16         Unmanned Air Vehicles       9-82         Unmanned Ground Vehicles       9-44         Urban Modeling       5-8         UUV Networks       13-64         Vacuum Power Flow       20-95         Vapor/Particle Detection (Land Mines)       17-66         Variable Addressability Imaging Systems       11-75         Variable Lethality Projectiles       2-77         Variable Wavelength Imaging Spectrometers       11-83         Vetronics       9-44         Vibration Suppression       14-60         Virtual Cathode Oscillator (Vircator) (HPM NB Sources)       6-56         Virtual Reality (VR) Display Technology       10-86         Viscous Drag Reduction       1-9         Viscous Flow Control       1-10         16.3-9       Vision Navigation Systems       DSTL-16-47         Vulnerability Assessment       20-101         Warm X-Ray Debris Shield       20-123         Water Jet Detection (Land Mines)       17-62		Undersea Robots	12-37
Underwater Nuclear Shock Prediction       20-28         Underwater Nuclear Shock Simulation       20-29         Underwater Weapons Passive Sensors       17-16         Unmanned Air Vehicles       9-82         Unmanned Ground Vehicles       9-44         Urban Modeling       5-8         UUV Networks       13-64         Vacuum Power Flow       20-95         Vapor/Particle Detection (Land Mines)       17-66         Variable Addressability Imaging Systems       11-75         Variable Lethality Projectiles       2-77         Variable Wavelength Imaging Spectrometers       11-83         Vetronics       9-44         Vibration Suppression       14-60         Virtual Cathode Oscillator (Vircator) (HPM NB Sources)       6-56         Virtual Reality (VR) Display Technology       10-86         Viscous Drag Reduction       1-9         Viscous Flow Control       1-10         16.3-9       Vision Navigation Systems       DSTL-16-47         Vulnerability Assessment       20-101         Warm X-Ray Debris Shield       20-123         Water Jet Detection (Land Mines)       17-62	16.3-8	Underwater Acoustic Beacon Navigation Systems	DSTL-16-46
Underwater Nuclear Shock Simulation       20-29         Underwater Weapons Passive Sensors       17-16         Unmanned Air Vehicles       9-82         Unmanned Ground Vehicles       9-44         Urban Modeling       5-8         UUV Networks       13-64         Vacuum Power Flow       20-95         Vapor/Particle Detection (Land Mines)       17-66         Variable Addressability Imaging Systems       11-75         Variable Wavelength Imaging Spectrometers       11-83         Vetronics       9-44         Vibration Suppression       14-60         Virtual Cathode Oscillator (Vircator) (HPM NB Sources)       6-56         Virtual Reality (VR) Display Technology       10-86         Viscous Drag Reduction       1-9         Viscous Flow Control       1-10         16.3-9       Vision Navigation Systems       DSTL-16-47         Vulnerability Assessment       20-101         Warm X-Ray Debris Shield       20-123         Water Jet Detection (Land Mines)       17-62	16.4-9	Underwater Electric Field Sensors	DSTL-16-74
Underwater Weapons Passive Sensors   17-16     Unmanned Air Vehicles   9-82     Unmanned Ground Vehicles   9-44     Urban Modeling   5-8     UUV Networks   13-64     Vacuum Power Flow   20-95     Vapor/Particle Detection (Land Mines)   17-66     Variable Addressability Imaging Systems   11-75     Variable Lethality Projectiles   2-77     Variable Wavelength Imaging Spectrometers   11-83     Vetronics   9-44     Vibration Suppression   14-60     Virtual Cathode Oscillator (Vircator) (HPM NB Sources)   6-56     Virtual Reality (VR) Display Technology   10-86     Viscous Drag Reduction   1-9     Viscous Flow Control   1-10     16.3-9   Vision Navigation Systems   DSTL-16-47     Vulnerability Assessment   20-101     Warm X-Ray Debris Shield   20-123     Water Jet Detection (Land Mines)   17-62		Underwater Nuclear Shock Prediction	20-28
Unmanned Air Vehicles   9-82		Underwater Nuclear Shock Simulation	20-29
Unmanned Ground Vehicles       9-44         Urban Modeling       5-8         UUV Networks       13-64         Vacuum Power Flow       20-95         Vapor/Particle Detection (Land Mines)       17-66         Variable Addressability Imaging Systems       11-75         Variable Lethality Projectiles       2-77         Variable Wavelength Imaging Spectrometers       11-83         Vetronics       9-44         Vibration Suppression       14-60         Virtual Cathode Oscillator (Vircator) (HPM NB Sources)       6-56         Virtual Reality (VR) Display Technology       10-86         Viscous Drag Reduction       1-9         Viscous Flow Control       1-10         16.3-9       Vision Navigation Systems       DSTL-16-47         Vulnerability Assessment       20-101         Warm X-Ray Debris Shield       20-123         Water Jet Detection (Land Mines)       17-62		Underwater Weapons Passive Sensors	17-16
Urban Modeling       5-8         UUV Networks       13-64         Vacuum Power Flow       20-95         Vapor/Particle Detection (Land Mines)       17-66         Variable Addressability Imaging Systems       11-75         Variable Lethality Projectiles       2-77         Variable Wavelength Imaging Spectrometers       11-83         Vetronics       9-44         Vibration Suppression       14-60         Virtual Cathode Oscillator (Vircator) (HPM NB Sources)       6-56         Virtual Reality (VR) Display Technology       10-86         Viscous Drag Reduction       1-9         Viscous Flow Control       1-10         16.3-9       Vision Navigation Systems       DSTL-16-47         Vulnerability Assessment       20-101         Warm X-Ray Debris Shield       20-123         Water Jet Detection (Land Mines)       17-62		Unmanned Air Vehicles	9-82
UUV Networks       13-64         Vacuum Power Flow       20-95         Vapor/Particle Detection (Land Mines)       17-66         Variable Addressability Imaging Systems       11-75         Variable Lethality Projectiles       2-77         Variable Wavelength Imaging Spectrometers       11-83         Vetronics       9-44         Vibration Suppression       14-60         Virtual Cathode Oscillator (Vircator) (HPM NB Sources)       6-56         Virtual Reality (VR) Display Technology       10-86         Viscous Drag Reduction       1-9         Viscous Flow Control       1-10         16.3-9       Vision Navigation Systems       DSTL-16-47         Vulnerability Assessment       20-101         Warm X-Ray Debris Shield       20-123         Water Jet Detection (Land Mines)       17-62		Unmanned Ground Vehicles	9-44
Vacuum Power Flow       20-95         Vapor/Particle Detection (Land Mines)       17-66         Variable Addressability Imaging Systems       11-75         Variable Lethality Projectiles       2-77         Variable Wavelength Imaging Spectrometers       11-83         Vetronics       9-44         Vibration Suppression       14-60         Virtual Cathode Oscillator (Vircator) (HPM NB Sources)       6-56         Virtual Reality (VR) Display Technology       10-86         Viscous Drag Reduction       1-9         Viscous Flow Control       1-10         16.3-9       Vision Navigation Systems       DSTL-16-47         Vulnerability Assessment       20-101         Warm X-Ray Debris Shield       20-123         Water Jet Detection (Land Mines)       17-62		Urban Modeling	5-8
Vapor/Particle Detection (Land Mines) 17-66 Variable Addressability Imaging Systems 11-75 Variable Lethality Projectiles 2-77 Variable Wavelength Imaging Spectrometers 11-83 Vetronics 9-44 Vibration Suppression 14-60 Virtual Cathode Oscillator (Vircator) (HPM NB Sources) 6-56 Virtual Reality (VR) Display Technology 10-86 Viscous Drag Reduction 1-9 Viscous Flow Control 16.3-9 Vision Navigation Systems DSTL-16-47 Vulnerability Assessment 20-101 Warm X-Ray Debris Shield Water Jet Detection (Land Mines) 17-62		UUV Networks	13-64
Variable Addressability Imaging Systems  Variable Lethality Projectiles  2-77  Variable Wavelength Imaging Spectrometers  11-83  Vetronics  9-44  Vibration Suppression  14-60  Virtual Cathode Oscillator (Vircator) (HPM NB Sources)  6-56  Virtual Reality (VR) Display Technology  10-86  Viscous Drag Reduction  1-9  Viscous Flow Control  1-10  16.3-9  Vision Navigation Systems  DSTL-16-47  Vulnerability Assessment  20-101  Warm X-Ray Debris Shield  20-123  Water Jet Detection (Land Mines)  11-75  11-75  11-75  11-83  11-83  11-83  11-83  11-83  11-83  11-84  10-86  Vision Suppression  14-60  Virtual Reality (VR) Display Technology  10-86  Viscous Drag Reduction  1-9  Viscous Flow Control  1-10  16.3-9  17-62		Vacuum Power Flow	20-95
Variable Lethality Projectiles  Variable Wavelength Imaging Spectrometers  11-83  Vetronics  9-44  Vibration Suppression  Virtual Cathode Oscillator (Vircator) (HPM NB Sources)  Virtual Reality (VR) Display Technology  10-86  Viscous Drag Reduction  1-9  Viscous Flow Control  1-10  16.3-9  Vision Navigation Systems  Vulnerability Assessment  Vulnerability Assessment  Warm X-Ray Debris Shield  Water Jet Detection (Land Mines)  17-62		Vapor/Particle Detection (Land Mines)	17-66
Variable Wavelength Imaging Spectrometers  Vetronics  9-44  Vibration Suppression  Virtual Cathode Oscillator (Vircator) (HPM NB Sources)  Virtual Reality (VR) Display Technology  Viscous Drag Reduction  Viscous Flow Control  1-9  Viscous Flow Control  1-10  16.3-9  Vision Navigation Systems  Vulnerability Assessment  Vulnerability Assessment  Warm X-Ray Debris Shield  Water Jet Detection (Land Mines)  11-83  11-80  11-80  11-9  Vistous Place Unit PM NB Sources)  10-86  Virtual Reality (VR) Display Technology  10-86  Vistous Place Virtual R		Variable Addressability Imaging Systems	11-75
Vetronics 9-44 Vibration Suppression 14-60 Virtual Cathode Oscillator (Vircator) (HPM NB Sources) 6-56 Virtual Reality (VR) Display Technology 10-86 Viscous Drag Reduction 1-9 Viscous Flow Control 1-10  16.3-9 Vision Navigation Systems DSTL-16-47 Vulnerability Assessment 20-101 Warm X-Ray Debris Shield 20-123 Water Jet Detection (Land Mines) 17-62		Variable Lethality Projectiles	2-77
Vibration Suppression Virtual Cathode Oscillator (Vircator) (HPM NB Sources) 6-56 Virtual Reality (VR) Display Technology 10-86 Viscous Drag Reduction 1-9 Viscous Flow Control 1-10  16.3-9 Vision Navigation Systems DSTL-16-47 Vulnerability Assessment 20-101 Warm X-Ray Debris Shield Water Jet Detection (Land Mines) 17-62		Variable Wavelength Imaging Spectrometers	11-83
Virtual Cathode Oscillator (Vircator) (HPM NB Sources) 6-56 Virtual Reality (VR) Display Technology 10-86 Viscous Drag Reduction 1-9 Viscous Flow Control 1-10 16.3-9 Vision Navigation Systems DSTL-16-47 Vulnerability Assessment 20-101 Warm X-Ray Debris Shield Water Jet Detection (Land Mines) 17-62		Vetronics	9-44
Virtual Reality (VR) Display Technology  Viscous Drag Reduction  Viscous Flow Control  1-10  16.3-9  Vision Navigation Systems  Vulnerability Assessment  Vulnerability Assessment  Warm X-Ray Debris Shield  Water Jet Detection (Land Mines)  10-86  D-86  1-9  DSTL-16-47  20-101  20-123		Vibration Suppression	14-60
Viscous Drag Reduction 1-9 Viscous Flow Control 1-10  16.3-9 Vision Navigation Systems DSTL-16-47 Vulnerability Assessment 20-101 Warm X-Ray Debris Shield Water Jet Detection (Land Mines) 17-62		Virtual Cathode Oscillator (Vircator) (HPM NB Sources)	6-56
Viscous Flow Control 1-10  16.3-9 Vision Navigation Systems DSTL-16-47  Vulnerability Assessment 20-101  Warm X-Ray Debris Shield 20-123  Water Jet Detection (Land Mines) 17-62		Virtual Reality (VR) Display Technology	10-86
16.3-9 Vision Navigation Systems DSTL-16-47 Vulnerability Assessment 20-101 Warm X-Ray Debris Shield 20-123 Water Jet Detection (Land Mines) 17-62		Viscous Drag Reduction	1-9
Vulnerability Assessment20-101Warm X-Ray Debris Shield20-123Water Jet Detection (Land Mines)17-62		Viscous Flow Control	1-10
Warm X-Ray Debris Shield 20-123 Water Jet Detection (Land Mines) 17-62	16.3-9	Vision Navigation Systems	DSTL-16-47
Water Jet Detection (Land Mines) 17-62		Vulnerability Assessment	20-101
		Warm X-Ray Debris Shield	20-123
Water Jets, High-Pressure 17-78		Water Jet Detection (Land Mines)	17-62
		Water Jets, High-Pressure	17-78

<b>Data Sheet</b>	Technology	Page number
	Waveform Control	20-81
	WDM Microcavity Waveguides	11-95
	Wearable Computing Systems (WCSs)	10-74
	Wide Bandgap (WB) Semiconductors	7-40
	Wide-Band (WB) Antennas	6-89
	Wide-Band (WB) Systems	6-77
	Wide-Bandgap Electronic Materials	14-25
	Wing, Active Aeroelastic	1-24
	Wing, Strut-Braced, High Aspect Ratio	1-14
	X-Ray (cold) Debris Shield System	20-257
	X-Ray (cold) Effects Simulation	20-195
	X-Ray (cold) Simulator: Explosive Loading Simulator	20-143
	X-Ray (cold) Simulator: Magnetically Driven Flyer Plate	20-141
	X-Ray (cold) Simulator: X-Ray Machines	20-138
	X-Ray Blow Off	20-169
	X-Ray Debris Shield, Cold	20-122
	X-Ray Debris Shield, Hot	20-124
	X-Ray Debris Shield, Warm	20-123
	X-Ray Diodes	20-176
	X-Ray Effects Reduction	20-35
	X-Ray Lasers	11-24
	X-Ray Protective Coatings	20-41
17.2-6	Zero-Knowledge Proofs (ZNPs)	DSTL-17-40
	Zoned Ammunition for Autoloading Artillery	2-21